

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A trimeric unsymmetrical polyurethane polyol comprising the reaction product of:

- a) a diisocyanate;
- b) an aliphatic diol having 1-6 carbon atoms; and
- c) a polymeric diol having at least one oxycarbonyl linkage and having from 5-20 carbon atoms,

wherein the polyurethane polyol comprises an oligomer having an average molecular weight distribution of three monomeric units and includes hydroxyl termination.

2. (Previously Presented) A polyurethane polyol as in claim 1, wherein the diisocyanate is selected from the group consisting of 2,2,4-trimethylhexamethylene diisocyanate, 1,6-hexamethylene diisocyanate, 1,1'-methylene-bis-(4-isocyanatocyclohexane), 4,4'-methylene-bis-(cyclohexyl diisocyanate), hydrogenated toluene diisocyanate, 4,4'-isopropylidene-bis-(cyclohexyl isocyanate), 1,4-cyclohexyl diisocyanate, 4,4'-dicyclohexyldiisocyanate, and 3-isocyanato methyl-3,5,5-trimethylcyclohexyl diisocyanate, and mixtures and combinations thereof.

3. (Previously Presented) A polyurethane polyol as in claim 1, wherein the diisocyanate is aliphatic.

4. (Previously Presented) A polyurethane polyol as in claim 1, wherein the aliphatic diol is selected from the group consisting of 1,2-propanediol, ethyl-1,3-hexanediol, 1,6-hexanediol, 2-methyl propanediol, and 1,5-pentanediol, and mixtures and combinations thereof.

5. (Previously Presented) A polyurethane polyol as in claim 1, wherein the aliphatic diol includes an odd number of carbon atoms.

6. (Previously Presented) A polyurethane polyol as in claim 1, wherein the polymeric diol is selected from the group consisting of polycarbonate diols and polycaprolactone diols, and mixtures thereof.

7. (Previously Presented) A polyurethane polyol as in claim 1, wherein the diisocyanate is 2,2,4-trimethylhexamethylene diisocyanate, wherein the aliphatic diol is 1,5-pentanediol, and wherein the polymeric diol is polyoxohexylene carbonate diol.

8. (Previously Presented) A polyurethane polyol as in claim 1, wherein the ratio of the diisocyanate:aliphatic diol:polymeric diol is from about 1:1.9:0.1 to about 1:1.1:0.9

9. (Previously Presented) A polyurethane polyol as in claim 1, wherein the reaction product comprises a low viscosity, non-crystalline substantially 100 percent solids material.

10. (Currently Amended) A coating composition comprising the reaction product of:

a) a hydroxy-terminated polyurethane polyol precursor comprising an oligomer having an average molecular weight distribution of three monomeric units, the precursor comprising the reaction product of:

i) a diisocyanate;
ii) an aliphatic diol having 1-6 carbon atoms; and
iii) a polymeric diol having at least one oxycarbonyl linkage and having from 5-20 carbon atoms; and

b) a polyisocyanate.

11. (Previously Presented) A coating composition as in claim 10, wherein the polyisocyanate is selected from the group consisting of 2,4,6-trioxo-1,3,5-tris(6-isocyanatohexyl)hexahydro-1,3,5-triazine, N-isocyanatohexylaminocarbonyl-N,N'-bis(isocyanatohexyl)urea, the biuret of hexanediisocyanate, polymeric methane diisocyanate, and polymeric isophorone diisocyanate.

12. (Previously Presented) A coating composition as in claim 10, wherein the composition further comprises a catalyst for promoting reaction of the polyurethane polyol precursor with the polyisocyanate.

13. (Previously Presented) A coating composition as in claim 10, wherein the catalyst is selected from the group consisting of dibutyltin dilaurate, dibutyltin diacetate, stannous octoate, butyl stannic acid, and bismuth carboxylate.

14. (Previously Presented) A coating composition as in claim 10, wherein the composition further comprises one or more additives selected from the group consisting of antioxidants, colorants, UV absorbers, light stabilizers, and surfactants.

15. (Previously Presented) A coating composition as in claim 10, wherein the diisocyanate of the polyurethane polyol precursor is selected from the group consisting of 2,2,4-trimethylhexamethylene diisocyanate, 1,6-hexamethylene diisocyanate, 1,1'-methylene-bis-(4-isocyanatocyclohexane), 4,4'-methylene-bis-(cyclohexyl diisocyanate), hydrogenated toluene diisocyanate, 4,4'-isopropylidene-bis-(cyclohexyl isocyanate), 1,4-cyclohexyl diisocyanate, 4,4'-dicyclohexyldiisocyanate, and 3-isocyanato methyl-3,5,5-trimethylcyclohexyl diisocyanate, and mixtures and combinations thereof.

16. (Previously Presented) A coating composition as in claim 10, wherein the aliphatic diol is selected from the group consisting of 1,2-propanediol, ethyl-1,3-hexanediol, 1,6-hexanediol, 2-methyl propanediol, and 1,5-pentanediol, and mixtures and combinations thereof.

17. (Previously Presented) A coating composition as in claim 10, wherein the polymeric diol is selected from the group consisting of polycarbonate diols and polycaprolactone diols, and mixtures thereof.

18. (Previously Presented) A coating composition as in claim 10, wherein the polyurethane polyol precursor comprises the reaction product of 2,2,4-trimethylhexamethylene diisocyanate, 1,5-pentanediol, and polyoxohexylene carbonate diol.

19. (Previously Presented) A coating composition as in claim 18, wherein the polyurethane polyol precursor is further reacted with 2,4,6-trioxo-1,3,5-tris(6-isocyanatohexyl)hexahydro-1,3,5-triazine in the presence of dibutyltin dilaurate as a catalyst.

20. (Currently Amended) A substrate having a coating on at least one surface thereof, said coating comprising the reaction product of:

a) a hydroxy-terminated polyurethane polyol precursor comprising an oligomer having an average molecular weight distribution of three monomer units, the precursor comprising the reaction product of:

- i) a diisocyanate;
 - ii) an aliphatic diol having 1-6 carbon atoms; and
 - iii) a polymeric diol having at least one oxycarbonyl linkage and having from 5-20 carbon atoms; and
- b) a polyisocyanate.

21. (Previously Presented) A substrate as in claim 20,
wherein the substrate is glass.

22. (Previously Presented) A substrate as in claim 20,
wherein the substrate comprises a polymeric material.

23. (Previously Presented) A substrate as in claim 22,
wherein the substrate comprises a polycarbonate sheet.